

APPENDIX.

NOTE ON THE HABITS OF TARSIPES SPENSERAE, Gray.

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In spite of the animal's rarity, the habits of *Tarsipes spenserae* have already received considerable attention.

The species was first described in 1842, and in the following January Dr. J. E. Gray published (1) a note "Habits of *Tarsipes spenserae*," which consisted essentially of an extract from a letter written by Mrs. Grey, the wife of Governor Grey of South Australia. According to this account an animal kept in a small cage for many months fed upon moths and flies: "Taking them by their wings, and holding them in its fore paws it ate the bodies but declined the wings themselves." The little creature was never seen to drink.

In (2), John Gould quotes from Gilbert who had a specimen alive for several months; it became quite tame, was fearless and made no attempts to escape, but being nocturnal, slept for the greater part of the day. This specimen too would eat flies, "catching them as quick as lightning and then eating them leisurely, sitting tolerably erect and holding the fly between its fore-paws." It always rejected the head, wings, and legs.

The animal was also given sopped bread made very sweet with sugar, into which it inserted its long tongue, precisely in the way in which the Honeyeaters among birds do theirs into the flower-cups for honey. A little moistened sugar on the end of the finger would attract it from one part of the cage to another. By this means an opportunity was obtained for observing the beautiful prehensile structure of the tongue, which was frequently protruded for nearly an inch beyond the nose.

Gilbert also remarked that "when sleeping the animal rests upon the lower part of the back, with its long nose bent down between its forefeet, and its tail brought over all, and turned down the back."

Mr. Neill, Deputy-Assistant Commissary-General at King George's Sound also watched the animal which, he said, "is common in the district and makes its nest in the overhanging leaves of the *Xanthorrhoeae* and *Kingias*": He repeatedly dissected the little animals immediately after their capture and found in their stomachs only "a transparent fluid, like honey." He was therefore inclined to believe the natives who told him that the Noolbenger lived upon honey which it procured "by thrusting its long and slender tongue into the cups of the flowers." (3).

No fresh observations were published for many years, Oldfield Thomas, Lydekker, and others relying upon Mrs. Grey, Gilbert, or Neill for their remarks upon the animal's habits.

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(1) The numbers refer to the List of References at the end of the paper.

In 1921 Mr. E. le G. Troughton (4) visited Western Australia to collect for the Australian Museum, where he is the Zoologist in charge of mammals. He was not able to collect specimens of the animal, but he interested a Mr. David Morgan of Tudor, in the matter and subsequently received both specimens and notes on the habits of several kept as pets in the Morgan homestead. In the main Mr. Morgan's remarks coincided with earlier observations, but I cannot agree with him, "that when sleeping the animal tucks away its tail." The ones I have had in captivity curled their tails around the body as described by Gould when quoting from Gilbert.

During the last few years I have had several chances of observing the habits of the Noolbenger, too often alas! the little creature has died in the course of a day or two, but in June, 1926, one of two specimens sent from near the King River, Albany district, survived the critical stages and lived in a roomy cage for over two months.

The cage was fitted with the branch of a tree in which was placed a cosy bird's nest to act as sleeping quarters, this course being taken because in 1920 the Museum Taxidermist, Mr. O. H. Lipfert, and Mr. F. R. Bradshaw of Tambellup, whilst collecting the Stirling Ranges had had the good fortune to find a deserted Tawny Crowned Honey Eater's nest occupied by a family of three young Noolbengers.

The animal from the King River soon became quite tame, I could handle it at will, and often placed the little animal in my waistcoat pocket when I found it numb on a cold frosty morning. At times I would moisten the tips of several fingers and dip them in sugar; the little creature would then jump onto my hand and ascend the fingers in the way it would climb a branch. Having licked off the sugar it would return to the palm and repeat the operation on the other fingers; in no single instance did it move directly from finger to finger.

Its diet consisted of sopped bread sweetened with sugar, honey diluted with water, a very occasional fly, and bush flowers. Quite a number of flowers were offered, garden flowers and wattle-blossom had no attraction, they were either cursorily examined or quite ignored, but other flowers were generally investigated, particularly Banksia cones—chiefly *B. menzies*,—and Dryandra, *D. floribunda*, and until I had to leave it for a day or two shortly before its death, sprays of its favourite flowers were placed in the cage every day. The animal would first lick the stamens in a most persistent manner, possibly to strip them of their pollen, and then it would force its long snout into the clusters in search of something that I could not determine, as much as an hour would be devoted to the process which was conducted on all sides of the cone and at times wonderful exhibitions were given of the creature's nimbleness and of the use made of the long powerful prehensile tail.

At times the Noolbenger would take things in its manus and then it was noticed that the first and second digits were never opposed to the rest as so persistently done by the Koala, *Phascolarctus*. In this connection I would mention that the local species of Ring Tailed Possum, *Pseudochirus occidentalis*, will often, and the Common Possum, *Trichosurus vulpecula*, occasionally oppose the first and second digits to the rest when holding food, whilst the Mundarda, *Dromicia concinna*, and the Noolbenger, *Tarsipes spenserae*, have never been seen to do this, though I have watched them on many occasions.

The extremities of the digits of the manus and pes are expanded, as in certain geckos, and the nails seem to be quite functionless excepting those on the syndactylous digits of the pes, which are used for combing the fur.

The first digit of the pes is nailless and opposable to the rest, the whole member forming a gripping organ as efficient as that of *Pseudochirus* or *Trichosurus*. When the animal progressed slowly along the ground, or along a branch, the two hind limbs were moved alternately but when the speed was accelerated, or the animal descended head downwards, or scuttled over the fine netting of its cage, in a succession of small leaps, the two hind limbs moved in unison.

The long, slender, tapering tail is hairy for the greater part, with the under side of the tip naked. It is an efficient organ and is used on every possible occasion, quite as frequently as in the case of *Trichosurus*. The little animal will hang by it, and if needs be, climb up itself to reach the bough from which it has been hanging in exactly the same manner as has been observed in *Pseudochirus* and *Trichosurus*. When not in use the muscles of the tail are relaxed and the organ trails behind; it is rarely curled as in *Dromicia* and *Pseudochirus*.

The distribution of the animal is more extensive than was once believed to be the case, its headquarters still seem to be the country around Albany, but it has been obtained as far north as Dandarragan near Moora, and Irwin Siding, over 200 miles north of Perth; in an easterly direction it extends to the Stirling Ranges, Gnowangerup, and Esperance.

LIST OF REFERENCES.

- (1) Gray, J. E.—“Habits of *Tarsipes spenserae*.” *Annals of Natural History*, XI., 1843, p. 76.
- (2) Gould, J.—Remarks to Plate V. *Mammals of Australia*, Vol. I., 1845.
- (3) Waterhouse, G. R.—*Natural History of Mammalia*, Vol. I., *Marsupiated*, 1846, p. 353.
- (4) Troughton, E. le. G.—“The ‘Honey Mouse’ *Tarsipes spenserae*,” *Gray. Australian Zoologist* III., Part V, August, 1923, p. 148.